

## STATE OF TENNESSEE DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

**Greg Denton** 

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley **TDEC-WPC** 

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: K00002426

**Knoxville Regional Laboratory** 

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

K00002426001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA ash spill

**Project Site No.: Station No.:** 

EMORY012.1RO

**Date/Time Collected:** 

06/04/2009 09:45

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville **TDEC-WPC** 

**Billing Code:** Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/14/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

Chlorine, residual:

**Field Determinations** 

Conductivity: 98

Temperature: 20.35

**Dissolved Oxygen:** 7.22

Other:

pH:

Flow: **CFS** 

7.07

pH Units

uMHO

mg/L

TEST: Alkalinity, Total METHOD: EPA 310.2							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	28	mg/L	3.8	10	M Chen	6/9/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	30	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002426002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 2.1

**Project Site No.:** 

**Station No.:** 

EMORY002.1RO

**Date/Time Collected:** 

06/04/2009 10:40

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73** 

Water

EFO:

Knoxville

Sampling Agency:

TDEC-WPC

**Billing Code:** 

327.34-20

**Send Report To:** 

**TDEC-WPC** 

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/14/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

7.40

pH Units

Chlorine, residual:

Conductivity:

97

**uMHO** 

Temperature: 24.98

**Dissolved Oxygen: 8.38** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME:	THOD: EPA 31				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	27	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	30	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	ME:					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	12	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002426003

**Project Name:** 

TVA-Ash Spill

**Field Determinations** 

pH: 7.46 pH Units

**CFS** 

Sample Description: Sampler Project Name: TVA ash spill

approx 100' downstream from middle dredge po Chlorine, residual: Conductivity:

Temperature:

106 **uMHO** 

**Project Site No.:** 

2A

Dredge Plume 06/04/2009 10:49

**Dissolved Oxygen: 8.52** 

24.96

Date/Time Collected: Sampler's Name:

Other: Flow:

mg/L

County:

**Station No.:** 

Geoff Klein **ROANE - 73** 

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20

**Send Report To:** Agency Invoiced:

TDEC-WPC TDEC-WPC 06/14/2009

**Priority Date:** Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

TEST: Alkalinity, Total	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	29	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	WE.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	29	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	WE.	THOD: SM 254			<u></u>	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U .	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002426004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA ash spill

**Project Site No.:** 

2B

**Station No.:** 

EMORY001.9RO

**Date/Time Collected:** 

Sampler's Name:

06/04/2009 10:55

County:

Geoff Klein

**Sample Matrix:** 

**ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

**Billing Code: Send Report To:**  327.34-20 **TDEC-WPC** 

**Agency Invoiced: Priority Date:** 

TDEC-WPC

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

06/14/2009

**Field Determinations** 

pH:

7.46

pH Units

Chlorine, residual:

Conductivity:

108 24.93 **uMHO** 

Temperature:

**Dissolved Oxygen: 8.46** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	MET	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	33	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	MET	THOD: SM 350				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	31	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

K00002426005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory River mile 1.7

**Project Site No.:** 

3

**Station No.:** 

EMORY001.7RO

Date/Time Collected:

06/04/2009 11:04

Sampler's Name: County:

Geoff Klein

Sample Matrix:

**ROANE - 73** 

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/14/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH: 7.69

Chlorine, residual:

pH Units

uMHO

Conductivity: Temperature:

138 24.70

Dissolved Oxygen: 8.98 Other:

Flow:

mg/L **CFS** 

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	71	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	59	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F				#	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002426006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory RIver mile 0.1

Sampler Project Name: TVA ash spill

**Project Site No.:** 

**Station No.:** 

EMORY000.1RO

**Date/Time Collected:** Sampler's Name:

06/04/2009 11:12

County:

Geoff Klein **ROANE - 73** 

Sample Matrix:

Water

EFO:

Sampling Agency:

Knoxville TDEC-WPC

**Billing Code: Send Report To:**  327.34-20

Agency Invoiced: **Priority Date:** 

TDEC-WPC TDEC-WPC 06/14/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

8.52

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 232

24.79

Dissolved Oxygen: 11.20

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	100	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	79	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F					<u> </u>
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	. 10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

K00002426007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA ash spill

**Project Site No.:** 

5

**Station No.:** 

CLINC002.3RO

Date/Time Collected:

06/04/2009 11:22

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73** 

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **TDEC-WPC** TDEC-WPC

**Priority Date:** 

06/14/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

TEST: Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	65	mg/L	3.8	10	M Chen	6/9/2009

**Field Determinations** 

Dissolved Oxygen: 10.01

Chlorine, residual:

Conductivity:

Temperature:

8.11

215

24.13

pH Units

uMHO

mg/L

**CFS** 

:Hq

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	50	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009	

TEST: Residue, Suspended	ME					
ANALYTE	RESULT UNITS MDL		MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

**MDL - Method Detection Limit** 

**MQL - Method Quantitation Limit** 

K00002426008

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Clinch River TVA Discharge Point

**Project Site No.:** 

5A

**Station No.:** 

KingAshOutF2

Date/Time Collected:

06/04/2009 11:31

Sampler's Name:

Geoff Klein

County:

**ROANE - 73** 

**Sample Matrix:** 

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

**TDEC-WPC** 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC **TDEC-WPC** 

**Priority Date:** 

06/14/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

8.14

pH Units

uMHO

Chlorine, residual:

Conductivity:

226

24.91

Temperature: **Dissolved Oxygen: 10.12** 

mg/L

Other:

Flow:

**CFS** 

TEST: Alkalinity, Total	ity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	210	mg/L	3.8	10	M Chen	6/9/2009	

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	66	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	Ų	ml/L	0.10	0.10	P Leathers	6/5/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	13	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

Sample Description:

K00002426009

**Project Name:** 

TVA-Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

**Field Determinations** 

Dissolved Oxygen: 11.24

Conductivity:

Temperature:

pH:

Other:

Flow:

8.51

235

24.73

pH Units

**uMHO** 

mg/L

**CFS** 

Sampler Project Name: TVA ash spill **Project Site No.:** 

**Station No.:** 

CLINC004.5RO

**Date/Time Collected:** 

06/04/2009 11:42

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

TDEC-WPC

**Billing Code: Send Report To:**  327.34-20 TDEC-WPC

**Agency Invoiced: Priority Date:** 

TDEC-WPC 06/14/2009

Date/Time Received:

06/04/2009

15:09

Received By:

Ken Hitchman

TEST: Alkalinity, Total	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	80	mg/L	3.8	10	M Chen	6/9/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT UNITS MDL		MQL	ANALYZED BY:	DATE	
Calcium hardness	65	mg/L	0.7	1	P Leathers	6/9/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			<u> </u>	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	P Leathers	6/5/2009	

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED BY:	DATE	
Total Suspended Solids	10	mg/L	10	10	A Peeples	6/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 



## STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

**Lab ID:** K00002426

**Knoxville Regional Laboratory** 

Sampling Agency: TDEC: Division of Water Pollution Control

**Billing Code:** 

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

K00002426001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA ash spill

**Project Site No.:** Station No.:

Date/Time Collected:

EMORY012.1RO

Sampler's Name:

06/04/2009 09:45 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville

**Billing Code:** Send Report To: **TDEC-WPC** 327.34-20 TDEC-WPC

**Agency Invoiced: Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

7.07

pH Units

Chlorine, residual:

Conductivity:

98

uMHO

Temperature: Dissolved Oxygen: 7.22

20.35

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009

TEST: ICP	METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Iron	180	μg/L	2.9	10	A Bass	6/27/2009		

TEST: ICP-MS	MET	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	79	μg/L	6.4	10	A Wilson	6/29/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	U	μg/L	0.93	5	A Wilson	6/27/2009
Barium	32	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	3.5J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.27J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	3.6	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.30J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	68	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.7	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	0.046J	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.13J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	5.1	μg/L	1.9	5	A Wilson	6/27/2009

K00002426001

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA ash spill

**Project Site No.:** 

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

06/04/2009 09:45

County:

Geoff Klein

Sample Matrix:

**ROANE - 73** Water

EFO:

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

TEST: Mercury	METHOD: EPA 245.1

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.080J	μg/L	0.029	0.2	A Wilson	6/9/2009

**Field Determinations** 

Dissolved Oxygen: 7.22

Chlorine, residual:

Conductivity:

Temperature:

:Ha

Other:

Flow:

7.07

98

20.35

pH Units

**uMHO** 

mg/L

**CFS** 

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002426002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA ash spill

**Project Site No.:** 

Station No.:

EMORY002.1RO

Date/Time Collected:

06/04/2009 10:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO: Sampling Agency: Water Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

7.40

pH Units

Chlorine, residual:

Conductivity:

97

uMHO

Temperature:

24.98 Dissolved Oxygen: 8.38

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009	

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	360	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	520	μg/L	32.0	50	A Wilson	6/29/2009
Antimony	0.35J	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	3.7J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	46	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	0.11J	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	4.1J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.56J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	1.9	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.81J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	76	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.6	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.11J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	3.2J	μg/L	1.9	5	A Wilson	6/27/2009

K00002426002

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA ash spill

**Project Site No.:** 

Station No.:

EMORY002.1RO

Date/Time Collected:

06/04/2009 10:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

**Priority Date:** Date/Time Received: 06/30/2009 06/04/2009

Received By:

Ken Hitchman

15:09

**Field Determinations** 

pH:

7.40

pH Units

Chlorine, residual:

Conductivity:

97

uMHO

Temperature:

24.98

**Dissolved Oxygen: 8.38** Other:

Flow:

**CFS** 

mg/L

MET	THOD: EPA 24	5.1			
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
U	μg/L	0.029	0.2	A Wilson	6/9/2009
		RESULT UNITS		RESULT UNITS MDL MQL	RESULT UNITS MDL MQL ANALYZED BY:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002426003

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

approx 100' downstream from middle dredge po Chlorine, residual:

**Project Site No.:** 

**Station No.:** 

2A

Date/Time Collected:

Dredge Plume 06/04/2009 10:49

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

**Sampling Agency:** 

Knoxville TDEC-WPC

**Billing Code:** Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

**Dissolved Oxygen: 8.52** 

pH:

7.46

pH Units

uMHO

Conductivity: Temperature:

106

24.96

mg/L

Other:

Flow:

TEST: Digestion Metals	MET	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	DATE			
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009	

TEST: ICP		METHOD: EPA 200.7						
ANALYTE		RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	40	290	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	480	μg/L	32.0	50	A Wilson	6/29/2009
Antimony	U <sup>.</sup>	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	3.4J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	43	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	0.73J	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	2.5J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.46J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	3.6	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.67J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	73	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.4	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.086J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	5.2	μg/L	1.9	5	A Wilson	6/27/2009

K00002426003

**Project Name:** 

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA ash spill

approx 100' downstream from middle dredge po Chlorine, residual:

**Field Determinations** 

**Dissolved Oxygen: 8.52** 

Conductivity:

Temperature:

pH:

Other:

Flow:

7.46

106

24.96

pH Units

**uMHO** 

mg/L

**CFS** 

**Project Site No.:** 

**Station No.:** 

2A

Date/Time Collected:

Dredge Plume

Sampler's Name:

06/04/2009 10:49

County:

Geoff Klein

Sample Matrix:

**ROANE - 73** 

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009

Received By:

TEST: Mercury

Ken Hitchman

15:09

<del></del>	
METHOD:	EPA 245.1

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	_
Mercury	U	μg/L	0.029	0.2	A Wilson	6/9/2009	-

J - Estimated value between MDL and MQL

MDL - Method Detection Limit **MQL - Method Quantitation Limit** 

K00002426004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

**Project Site No.:** 

Sampler Project Name: TVA ash spill

2B

**Station No.: Date/Time Collected:**  EMORY001.9RO

Sampler's Name:

06/04/2009 10:55 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

**Billing Code:** Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC 06/30/2009

**Priority Date:** Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

7.46

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

108

24.93

**Dissolved Oxygen: 8.46** 

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	330	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	480	μg/L	32.0	50	A Wilson	6/29/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	3.8J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	44	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	4.2J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.58J	μg/L	0.04	1 .	A Wilson	6/27/2009
Copper	3.5	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.75J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	74	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.5	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.090J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	-5	A Wilson	6/27/2009
Zinc	4.9J	μg/L	1.9	5	A Wilson	6/27/2009

K00002426004

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA ash spill

**Project Site No.:** 

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

06/04/2009 10:55

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

7.46

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 108

24.93

Dissolved Oxygen: 8.46

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	MET	ΓHOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U <sup>*</sup>	μg/L	0.029	0.2	A Wilson	6/9/2009
·	· · · · · · · · · · · · · · · · · · ·		<del></del>			

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002426005

**Project Name:** 

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA ash spill

Emory River mile 1.7

**Project Site No.:** 

Station No.:

Date/Time Collected:

EMORY001.7RO

Sampler's Name:

06/04/2009 11:04 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** pH: 7.69 pH Units Chlorine, residual:

138 Conductivity: Temperature: 24.70

Dissolved Oxygen: 8.98

Other:

Flow: **CFS** 

uMHO

mg/L

TEST: Digestion Metals	T: Digestion Metals METHOD: EPA 200.2							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009		

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	160	μg/L	2.9	10	A Bass	6/27/2009	

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	300	μg/L	32.0	50	A Wilson	6/29/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	2.5J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	45	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	3.8J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.35J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	3.6	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.44J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	56	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.6	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	Ú	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.075J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	2.4J	μg/L	1.9	5	A Wilson	6/27/2009

K00002426005

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA ash spill

**Project Site No.:** 

Station No.:

**Date/Time Collected:** 

EMORY001.7RO 06/04/2009

Sampler's Name:

11:04 Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

7.69

pH Units

Chlorine, residual:

Conductivity: Temperature:

138 24.70

uMHO

Dissolved Oxygen: 8.98

Other:

mg/L

Flow:

**CFS** 

TEST: Mercury	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.030J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002426006

**Project Name:** 

TVA-Ash Spill

Sample Description:

Emory RIver mile 0.1

**Project Site No.:** 

Sampler Project Name: TVA ash spill

Station No.: EMORY000.1RO

Date/Time Collected: Sampler's Name:

06/04/2009 11:12 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water Knoxville

Sampling Agency: Billing Code: Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

8.52

pH Units

Chlorine, residual:

Conductivity:

232

uMHO

Temperature: **Dissolved Oxygen: 11.20** 

24.79

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	200	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	300	 μg/L	32.0	50	A Wilson	6/29/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	1.1J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	38	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	U	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.33J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	3.0	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.41J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	41	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	2.2	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.038J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	U	μg/L	1.9	5	A Wilson	6/27/2009

K00002426006

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Emory RIver mile 0.1

**Project Site No.:** 

**Station No.:** 

EMORY000.1RO

Date/Time Collected: Sampler's Name:

06/04/2009 11:12

County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO:

Sampling Agency:

Knoxville

**Billing Code:** Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:** 

TDEC-WPC

Date/Time Received:

06/30/2009 06/04/2009

15:09

Received By:

**TEST: Mercury** 

**ANALYTE** 

Mercury

Ken Hitchman

METHOD: EPA 245.1

RESULT UNITS MDL. MQL **ANALYZED BY:** DATE U 0.029 μg/L 0.2 A Wilson 6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

U - Undetected

**Field Determinations** 

:Hq

8.52

pH Units

Chlorine, residual:

Conductivity:

232

**uMHO** 

Temperature: 24.79 Dissolved Oxygen: 11.20

mg/L

Other:

Flow:

K00002426007 TVA-Ash Spill

**Project Name:** Sample Description:

Sampler Project Name: TVA ash spill

Clinch River mile 2.3

**Project Site No.:** 

**Station No.:** 

CLINC002.3RO

**Date/Time Collected:** 

06/04/2009 11:22

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** 

TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC 06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

**Digestion Metals** 

Ken Hitchman

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDĽ	MQL	ANALYZED BY:	DATE

06/08/2009

**Field Determinations** 

Dissolved Oxygen: 10.01

Chlorine, residual:

Conductivity:

Temperature:

8.11

215

24.13

S Ufegbu

pH Units

**uMHO** 

mg/L

**CFS** 

6/8/2009

pH:

Other:

Flow:

TEST: ICP	MET	THOD: EPA 20	0.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron .	200	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	400	μg/L	32.0	50	A Wilson	6/27/2009
Antimony	U	μg/L	0.33	. 1	A Wilson	6/27/2009
Arsenic	U	μg/L	0.93	5.	A Wilson	6/27/2009
Barium	28	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	. 1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	3.9J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.30J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	2.7	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.42J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	41	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.2	μg/L	0.25	1.	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.046J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	2.9J	μg/L	1.9	- 5	A Wilson	6/27/2009

K00002426007

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

Clinch River mile 2.3

**Project Site No.:** 

**Station No.:** 

CLINC002.3RO

Date/Time Collected:

06/04/2009 11:22

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:** 

Knoxville TDEC-WPC

Send Report To: **Agency Invoiced:**  327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

8.11

pH Units

Chlorine, residual:

Conductivity:

215

uMHO

Temperature: Dissolved Oxygen: 10.01

24.13

mg/L

Other:

Flow:

**CFS** 

TEST: Mercury	ME	THOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002426008

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

Sampler Project Name: TVA ash spill

**Project Site No.:** 

Station No.:

5A

KingAshOutF2

**Date/Time Collected:** Sampler's Name:

06/04/2009 11:31

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville

**Billing Code:** 

**TDEC-WPC** 

Send Report To: Agency Invoiced:

327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** 

06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

Field	Determinations
pH:	8.14

Chlorine, residual:

Conductivity:

226

uMHO

pH Units

Temperature:

24.91

**Dissolved Oxygen: 10.12** mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	ME:	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	520	μg/L	32.0	50	A Wilson	6/27/2009
Antimony	U	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	3.9J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	53	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	4.7J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.47J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	7.7	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.65J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	54	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.9	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	Ü	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.092J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	5.6	μg/L	1.9	5	A Wilson	6/27/2009

K00002426008

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River TVA Discharge Point

15:09

Sampler Project Name: TVA ash spill

**Project Site No.:** 

5A

Station No.:

KingAshOutF2

Date/Time Collected:

06/04/2009 11:31

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

**Billing Code:** 

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **Priority Date:** 

TDEC-WPC TDEC-WPC

Date/Time Received:

06/30/2009 06/04/2009

Received By:

Ken Hitchman

Other:

pH:

Temperature: Dissolved Oxygen: 10.12

Chlorine, residual:

**Field Determinations** 

226

pH Units

Conductivity:

8.14

24.91

mg/L

uMHO

Flow:

**CFS** 

TEST: Mercury	ME <sup>-</sup>	ΓHOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.030J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

**MQL - Method Quantitation Limit** 

K00002426009

**Project Name:** 

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA ash spill

**Project Site No.:** 

**Station No.:** 

**Date/Time Collected:** 

CLINC004.5RO

Sampler's Name:

06/04/2009 11:42 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

**Billing Code:** Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:** 

06/30/2009

Date/Time Received:

06/04/2009 15:09

Received By:

Ken Hitchman

**Field Determinations** 

pH:

8.51

pH Units

uMHO

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Conductivity: Temperature: 235

24.73 Dissolved Oxygen: 11.24

mg/L

Other:

Flow:

TEST: Digestion Metals	MET	HOD: EPA 20	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	06/08/2009				S Ufegbu	6/8/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	220	μg/L	2.9	10	A Bass	6/27/2009

TEST: ICP-MS	METHOD: EPA 200.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	360	μg/L	32.0	50	A Wilson	6/27/2009
Antimony	. <b>U</b>	μg/L	0.33	1	A Wilson	6/27/2009
Arsenic	2.6J	μg/L	0.93	5	A Wilson	6/27/2009
Barium	46	μg/L	2.5	5	A Wilson	6/27/2009
Beryllium	U	μg/L	0.11	1	A Wilson	6/27/2009
Cadmium	U	μg/L	0.41	1	A Wilson	6/27/2009
Chromium	3.8J	μg/L	2.0	5	A Wilson	6/27/2009
Cobalt	0.38J	μg/L	0.04	1	A Wilson	6/27/2009
Copper	4.6	μg/L	0.38	1	A Wilson	6/27/2009
Lead	0.50J	μg/L	0.10	1	A Wilson	6/27/2009
Manganese	45	μg/L	0.42	1	A Wilson	6/27/2009
Nickel	1.8	μg/L	0.25	1	A Wilson	6/27/2009
Selenium	U	μg/L	1.3	5	A Wilson	6/27/2009
Silver	U	μg/L	0.03	0.25	A Wilson	6/27/2009
Thallium	0.081J	μg/L	0.03	1	A Wilson	6/27/2009
Vanadium	U	μg/L	3.4	5	A Wilson	6/27/2009
Zinc	4.2J	μg/L	1.9	5	A Wilson	6/27/2009

K00002426009

**Project Name:** 

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

**Field Determinations** 

**Dissolved Oxygen: 11.24** 

Conductivity:

Temperature:

8.51

235

24.73

pH Units

**uMHO** 

mg/L

**CFS** 

pH:

Other:

Flow:

Sampler Project Name: TVA ash spill **Project Site No.:** 

Station No.:

**Date/Time Collected:** 

CLINC004.5RO 11:42

Sampler's Name:

06/04/2009

County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:** 

Knoxville TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

**Priority Date:** Date/Time Received:

06/30/2009 06/04/2009 15:09

Received By:

TEST: Mercury

Ken Hitchman

METHOD: EPA	245 1		

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.030J	μg/L	0.029	0.2	A Wilson	6/9/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit